LED SUPERSTAR MR16 35 24° adv.
Product description

- Equivalent to low 35W voltage halogen MR16W lamp
- One-to-one lamp size replacement
- Dimmable[1]
- Long Lifetime

Product Offering

Type reference	Wattage	CCT	Beam Angle	CRI
MR16 35 24° adv - 830	5W	3000K	24°	80

1. Key Features and Benefits

- 5W LED lamp as equivalent to MR16 35W halogen lamp
- GU5.3 base
- 12V AC/DC input voltage
- Dimmable[1]
- Available in the colour temperature 3000K – warm white
- Energy consumption reduced by ~90%
- Shock-proof and vibration-proof
- 25,000 hours lifetime
- UV and NIR radiation free
- Mercury free
- Operates with conventional and electronic control gear
- 4 years Osram Guarantee[2]

[1] See www.osram.com/dim
[2] See www.osram.com/guarantee

2. Common Characteristics[3]

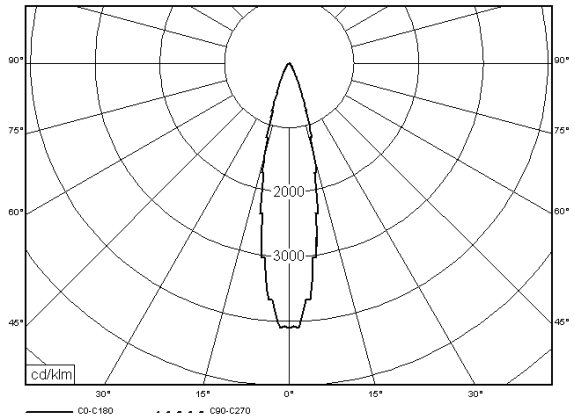
Average lifetime[4]	Switching cycles (30s on, 30s off)	Casing material	Starting time	Warm up time for 60% light	Power factor
25,000h	100,000	Metal/plastic	0.0s	none	0.9

Mercury max.	Base Type	Length	Diameter	Weight	Tc temperature max.[5]	Power	Nominal current (12V AC)
0.0mg	GU5.3	48 mm	50 mm	44g	90°C	5W	1.3 A

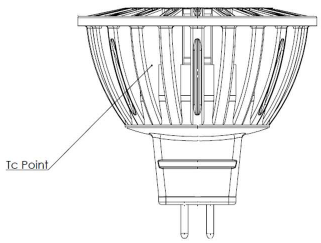
3. Characteristic Range[3]

Type reference	Luminous flux	Luminous intensity	Correlated colour temperature	Standard deviation colour matching	Colour rendering index	Beam angle
MR16 35 24° adv - 830	210lm	850 cd	3000K	<7	80	24°

4. Light Distribution Curve



5. Mounting information



[3] Typical values, measured @12 V AC (50Hz). All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

[4] The average lifetime of LED lamps is defined as the number of hours when the light output of 50% of a large group of identical lamps goes below 70% of its initial luminous flux (L70B50, IEC60969).The lifetime is estimated at room temperature (25°C), free air burning, base up burning position and at rated voltage. To achieve a full lifetime a good heat exchange for the electronic components is required.

[5] The Tc is defined as the highest permissible temperature which may occur on the outer surface of the LED lamp (in the indicated position) under normal operating conditions and at the rated voltage/current/power or the maximum of the rated voltage/current/power range (DIN EN 62031: 2009-01)

6. Disposal information

WEEE-lamps can be returned at specific collection points.
LED lamps have to be disposed as special waste.

7. Application Information

Applications

- hotels
- restaurant
- commercial areas
- residentials
- art galleries and museum
- office space

Application Notes

- suitable for indoor application.
- for outdoor applications and operation in damp locations special approved fixture are required.
- Input voltage: 12V AC/DC
- Operating temperature range between -20°C and 40°C

8. Cost savings: example

Reference product description	Similar halogen product	Watts saved	Cost saved after 2 year	Cost saved after 3 years	Cost saved after 5 years
MR16 35 24°	MR16 35W	30W	1	7	23

*Based on the assumption of 12hours/day and an energy cost of 0.19€/kWh

9. Ordering Guide

Type reference	Product Number – 1pcs	Product Number – 1 shipping unit	Number of pcs / ship. unit
MR16 35 24 °adv - 830	4008321682703	4008321682710	6

10. Lamp conformity

2004/108/EC Electromagnetic compatibility (EMC)
2009/125/EC Ecodesign requirements for energy related products
2011/65/EC Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
1907/2006 Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation)
2002/96/EC Waste Electrical and Electronic Equipment Directive (WEEE)
EN 62471 Photobiological safety of lamps and lamp systems
IEC/TR 62471-2 Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufactoring requirements relating to non-laser optical radiation safety
EN 55015 Limits and methods of measurement of radio disturance
EN 61000-3-2 Electromagnetic compatibility – Limits for harmonic current emission
EN 61000-3-3 Electromagnetic compatibility – Limitation of voltage changes, voltage fluactuations, flicker in public low voltage supply systems
EN61547 Electromagnetic compatibility immunity requirements

11. Compatibility performance with transformers without dimmer [6]

Status: June 2012

Legend

ET / electronic transformers | **MT** / magnetic transformers | **G** / good | **NG** / poor function | **N/A** / not applicable

OSRAM transformers

Transformer information			Number of tested lamps (@230V input)				Note
Brand	Model	Type	1	2	3	4	
NA	100VA	MT	G	G	G	G	
OSRAM	ET-MZ 60/110-130	ET	NG	NG	G	N/A	
OSRAM	ET-A 60/220-240	ET	G	G	G	N/A	
OSRAM	ET-C 70/220-240	ET	G	G	G	N/A	
OSRAM	ET-Z 60/220-240	ET	G	G	G	N/A	
OSRAM	ET-ZL 50/220-240	ET	G	G	N/A	N/A	
OSRAM	ET-ZE 60/220-240	ET	G	G	G	N/A	
OSRAM	ET-P 60/220-240 (Gen 1)	ET	NG	G	G	N/A	
OSRAM	ET-P 60/220-240 (Gen 2)	ET	G	G	G	N/A	
OSRAM	ET-Parrot 70/220-240 I	ET	G	G	G	N/A	
OSRAM	ET-Parrot 105/220-240 I	ET	NG	G	G	G	
OSRAM	TET-E60I/220-240	ET	NG	NG	G	N/A	
OSRAM	ET-Redback 60/230-240	ET	G	G	G	N/A	
OSRAM	HTB 70/220-240	HT	G	G	G	N/A	
OSRAM	HTB 105/220-240	HT	G	G	G	G	
OSRAM	HTB 70/230-240	HT	G	G	G	N/A	
OSRAM	HTN 75/230-240 I	HT	G	G	G	N/A	
OSRAM	HTM 70/230-240	HT	G	G	G	N/A	
OSRAM	HTM 105/230-240	HT	G	G	G	G	
OSRAM	HTM 150/230-240	HT	NG	NG	G	G	
OSRAM	HTL105/230-240	HT	NG	NG	G	G	
OSRAM	OT 12/220-240/10	OT	G	N/A	N/A	N/A	
OSRAM	OT 15/220-240/10	OT	G	N/A	N/A	N/A	
OSRAM	OTe 35/220-240/12	OT	G	N/A	N/A	N/A	
OSRAM	OT 20/220-240/24	OT	G	N/A	N/A	N/A	
OSRAM	OT 75/220-240/24	OT	G	G	G	N/A	
OSRAM	OTe 18/220-240/24	OT	G	N/A	N/A	N/A	

6 Typical values.

The test results reflect the measurement of the individual devices that were used in tests. OSRAM does not take over any responsibility, warranty or liability that this results can also be achieved by using the devices under other conditions or when using successor models of the tested devices or different models of the same manufacturer.

The test results were achieved by using the above mentioned LED-lamp types. OSRAM does not take over any responsibility, warranty or liability that this results can also be achieved by using the devices under other conditions or when using other LED-lamp types.

Other transformers

Transformer information			Number of tested lamps (@230V input)				Note
Brand	Model	Type	1	2	3	4	
SLV	461060	ET	G	G	G	N/A	
SLV	461310	ET	G	NG	NG	G	
BLOCK	HES 70K	ET	G	G	G	N/A	
BLOCK	HES 105K	ET	G	G	G	G	
EVN	TAB 70 (3110)	ET	G	G	G	N/A	
EVN	TAB 70 (3310)	ET	G	G	G	N/A	
EVN	TAB 50(0410)	ET	G	G	N/A		
EVN	CLOU 60(T41/09)	ET	G	G	G	N/A	
EVN	MINIJOKER 70(T27/10)	ET	NG	G	G	N/A	
Berker	SNT 70/QU 2918	ET	G	G	G	N/A	
Berker	SNTF 105 297401	ET	NG	G	G	G	
Berker	SNTF II 35-105W 2927	ET	NG	NG	G	G	
Berker	SNT 40 2915	ET	G	G	N/A	N/A	
TCI	SHARK60	ET	NG	G	G	N/A	
TCI	PUMA 60	ET	G	G	G	N/A	
TCI	EF 70	ET	G	G	G	N/A	
TCI	PUMA 105	ET	G	G	G	G	
TCI	ROUND 70	ET	G	G	G	N/A	
TCI	ROUND 50	ET	G	G	C	N/A	
BRUMBERG	54211	ET	NG	NG	G	G	
BRUMBERG	54271	ET	G	G	G	G	
Paulmann	Disc electronic S 70	ET	G	G	G	N/A	
Paulmann	Profi 50	ET	G	G	N/A	N/A	
JUNG	SNT 70 Q	ET	G	G	G	N/A	Not released for UK
JUNG	SNT 40	ET	G	G	N/A	N/A	
JUNG	SNT 70 F	ET	NG	G	G	N/A	
JUNG	SNT 105 F	ET	NG	G	G	G	
nobile	EN-80F	ET	NG	G	G	G	
nobile	EN-60D2	ET	NG	G	G	N/A	
nobile	EN-60D	ET	NG	G	G	N/A	
nobile	EN-35R	ET	G	N/A	N/A	N/A	
KTB	MBL 120	ET	NG	G	G	G	
FN LIGHT	TL105S 20-105W 461107	ET	G	G	G	G	
PHILIPS	Primaline 70 230-240	ET	NG	NG	G	N/A	Not released for UK
Abi	SET210(50-210VA) AL50476	ET	NG	G	G	G	
Abi	SET60T-EL AL50460	ET	G	G	G	N/A	
Abi	GET-60T AL50462	ET	G	G	G	N/A	

12. Dimming behaviour [6]

Status: April 2012

Legend	
L / leading edge	**T** / trailing edge
Y / yes	**N** / no

Dimming behaviour with OSRAM HTM 70 @ Vin= 230V, 50Hz						
Dimmer info			Number of lamp	Dimming range		Note
Brand	**Model**	**Type**		**Min**	**Max**	
Berker	Nr. 2874	T	1	5%	100%	*
CONRAD	T46	T	1	5%	100%	*
EVERFLOURISH	EFM700DC	T	1	15%	90%	*
merten	577199	T	1	16%	100%	*
CLIPSAL	32E 450TM	T	1	10%	95%	*

Dimming behaviour with OSRAM HTM 105 @ Vin= 230V, 50Hz						
Dimmer info			Number of lamp	Dimming range		Note
Brand	**Model**	**Type**		**Min**	**Max**	*
Berker	Nr. 2874	T	1	10%	100%	*
CONRAD	T46	T	1	10%	100%	*
EVERFLOURISH	EFM700DC	T	1	15%	95%	*
ELSO	ATD315(174200)	T	1	30%	100%	*
BUSCH	6519U	T	1	27%	100%	*
merten	577199	T	1	15%	100%	*
KOPP	80,78	T	1	10%	95%	*
CLIPSAL	32E 450TM	T	1	15%	95%	*
MCU TE 250(A63781E0055)	OSRAM	T	1	15%	90%	*

Dimming behaviour with OSRAM Parrot 70 @ Vin= 230V, 50Hz						
Dimmer info			Number of lamp	Dimming range		Note
Brand	**Model**	**Type**		**Min**	**Max**	*
Berker	Nr. 2874	T	1	10%	90%	*
CONRAD	T46	T	1	10%	190%	*
Legrand	775903	T	1	10%	55%	*
merten	577199	T	1	13%	90%	*

(*) Lamp may flicker in lower dimming range
Due to its limited functionality with leading edge dimmers, this kind of dimmer is not recommended